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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/488,091	01/18/2000	Kevin R. Lillard	P31.12-0009	3933

7590 09/09/2003
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EXAMINER

PARK, CHAN S

ART UNIT PAPER NUMBER

2622

DATE MAILED: 09/09/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/488,091

Applicant(s)

LILLAND ET AL.

Examiner

CHAN S PARK

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 6 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/18/00 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Drawings

Figure 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The examiner found the same figure in the Hagstrom et al. reference U.S. Patent No. 5,927,208.

Claim Rejections - 35 USC § 112

1. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 19 recites the limitation "CD printing device" in line 2. There is insufficient antecedent basis for this limitation in the claim.

2. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 20-23 have been renumbered 19-22.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1-11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al. U.S. Patent No. 5,966,555 in view of Hagstrom et al. U.S. Patent No. 5,927,208.

1. With respect to claim 1, the Nakajima et al. reference discloses a method for monitoring at least one print consumable of a printing device (col. 2, lines 40-42), comprising:

a. Receiving a print job, wherein the print job includes an image file and a copy number representing the number of copies of the image file that are to be printed (document number setting key 97 in fig. 2);

b. Determining a requested print consumable amount defined as an amount of print consumable needed to render the print job (col.3, lines 1-7);

c. Obtaining a remaining print consumable amount defined as an amount of print consumable that is loaded in the printing device (col. 3, lines 8-13);

d. Comparing the requested print consumable amount to the remaining print consumable amount (col. 3, lines 8-13);

e. Interrupting rendering the print job, prior to rendering the print job, when the requested print consumable amount exceeds the remaining print consumable amount (col. 3, lines 23-25 & col. 14, lines 51-54);

The Nakajima et al. reference, however, does not explicitly disclose whether the print job with the printing device is continued when the requested print consumable amount does not exceed the remaining print consumable amount. However, it is well known to one skilled in the art at the time invention was made that a printer will continue with its print job as long as there are no errors i.e. toner level or interruptions.

The Nakajima et al. reference also does not disclose if the method of monitoring can be applied to a CD printing device. On the other hand, the Hagstrom et al. reference discloses the method of printing labels on compact discs utilizing ink (col. 2, lines 21-23). Having known the method of monitoring the usage of ink and paper in a printing device taught by Nakajima et al., it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the monitoring method in the Hagstrom et al. CD printing device. Since each CD uses almost the same amount of print consumable, one would have been motivated to apply such an implementation to calculate and notify the user if an input CD print job can be completed as planned.

2. With respect to claim 2, the Nakajima et al. reference further discloses the step warning the user that the print job cannot be completed (col. 12, lines 6-7).

3. With respect to claim 3, the Nakajima et al. reference discloses the method of supplying necessary papers when the user is informed of insufficient print consumable to complete the job (col. 21, lines 45-51) and it further discloses an operation panel in fig. 2. The Nakajima et al. reference, however, does not explicitly disclose if the user is provided with an option of adjusting the copy number of the print job. However, having

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notified with such a warning, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make any necessary changes by pressing any of LCD panel keys (stop key 95, clear key 93, and reset key 95, in fig.2) to adjust the copy number of the print job accordingly. It would have assured the user that at least the new inputted job could be completed with remaining consumable amount.

4. With respect to claim 4, the Nakajima et al. reference further discloses a print quality setting relating to an amount of print consumable used to print an image (density, zoom, and paper key 91 in fig. 2). Again, as noted above in claim 3, although the reference does not explicitly disclose the option of adjusting the print quality setting of the print job, it well known to one having ordinary skill in the art at the time the invention was made that any necessary changes could be made by pressing any of image control keys displayed in LCD panel to adjust the quality to produce either more or fewer copies.

5. With respect to claim 5, the Nakajima et al. reference further discloses method for determining a single print consumable amount defined as the amount of print consumable needed to print a single copy of the image file, wherein the requested print consumable amount is determined by multiplying the single print consumable amount by the copy number (col. 3, lines 1-13 & col. 21, lines 1-2).

6. With respect to claim 6, the Nakajima et al. reference further discloses the monitoring method wherein:

The determining step (b) further comprises calculating a maximum copy number representing a maximum number of copies of the image file that can be printed based

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upon the remaining print consumable amount and the single print consumable amount (col. 12, lines 51-53).

Again, although the reference does not explicitly mention about having options for the users, having learned the method of getting notifications and the maximum copy number can be printed, it would have been obvious to one having ordinary skill in the art at the time the invention was made to press any of LCD panel keys (stop key 95, clear key 93, and reset key 95, in fig.2) to adjust the copy number of the print job to the maximum number or even less than the maximum copy number according to the user's preferences.

7. With respect to claim 7, the Nakajima et al. reference further discloses the interrupting step comprising the option of adjusting the amount of print consumable that is available (col. 21, lines 45-51).

8. With respect to claim 8, the Nakajima et al. reference further discloses the method wherein the print consumable is stored in a first cartridge (col. 7, lines 7-8); and the interrupting step (e) having a step of saving the remaining print consumable amount of the first print cartridge in a memory (col. 12, line 53-64). Although the reference does not explicitly mention about the print cartridge having a filename, having known the remaining amount of toner can be saved in a data memory, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the well known in the art method of saving any data under a desired file name. One would have been motivated to have a file name to distinguish which cartridge needs a replacement. Furthermore, it would have been obvious to one having ordinary skill in the art at the

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time the invention was made to replace the used cartridge with a new one and store the newly stored cartridge information to a file name. Since this method is well known at the time the invention was made, one would have been motivated to save the newly stored cartridge information to monitor the usage of it.

9. With respect to claim 9, although the Nakajima et al. reference does not disclose a method of replacing a print cartridge to a new one, having known the method of saving the remaining toner to a memory, it would have been obvious to one having ordinary skill in the art at the time the invention was made that the printing device will detect a replaced cartridge and update the amount of toner in it and thus informing the user with a new possible number of copies can be made.

With respect to the rest of claim 9, arguments analogous to those presented for claim 8, are applicable.

10. With respect to claim 10, the Nakajima et al. reference discloses an operation panel in fig. 2. Again, as noted above in claim 3, although the reference does not explicitly disclose the option of canceling the print quality setting of the print job, it well known in the art at the time the invention was made that any necessary changes could be made by pressing any of image control keys displayed in LCD panel which includes the option of canceling the print job.

11. With respect to claim 11, the Nakajima et al. reference discloses an operation panel in fig. 2. Again, as noted above in claim 3, although the reference does not explicitly disclose the option of rendering the print job without any adjustments, it well

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known in the art at the time the invention was made to continue its job when the user desires to do so.

12. With respect to claim 14, the Nakajima et al. reference further discloses the print consumable of the printing device is a toner (col. 3, lines 1-7).

Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al. in view of Hagstrom et al. as applied to claims 1 and 5 above, and further in view of Garr et al. U.S. Patent No. 5,802,420.

13. With respect to claim 12, as noted above, the combination of the Nakajima et al. and Hagstrom et al. references discloses all the limitations of claims 1 and 5. However, it does not explicitly disclose the rendering step further comprising updating the remaining print consumable amount by deducting the requested print consumable amount. On the other hand, the Garr et al. reference discloses a method of updating the amount of toner remaining in the cartridge on a job-by-job basis (col. 18, lines 15-26). All three references are analogous art because they are from the same field of endeavor that is the printing art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the Garr et al. method of updating the usage of toner to the combination of the Nakajima et al. and Hagstrom et al. methods of informing the user the achievability of the input print job. One would have been motivated to apply such an implementation to provide the user the updated status of the ink and paper remaining in the device.

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14. With respect to claim 13, arguments analogous to those presented for claims 12 and 5, are applicable. The Garr et al. reference discloses a method of updating the amount of toner remaining in the cartridge on a job-by-job basis (col. 18, lines 15-26 & fig. 7).

Claims 15-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al. and Hagstrom et al., and further in view of Garr et al.

15. With respect to claim 15, as noted above, the combination of the Nakajima et al., Hagstrom et al., and Garr et al. references discloses all the limitations of claim 15 (see claims 1 and 12) except element (i) and (j).

The Nakajima et al. reference mentions the method of determining and notifying the user when the remaining print consumable amount has been exhausted (col. 1, lines 32-38).

It is also inherent that any printer is paused or interrupted when the print consumable amount is exhausted.

16. With respect to claim 16, arguments analogous to those presented for claims 3, 7, 10, 11, and 12 are applicable.

17. With respect to claim 17, arguments analogous to those presented for claims 2, 3, 7, 10, 11, and 12 are applicable.

18. With respect to claim 18, arguments analogous to those presented for claim 4 are applicable.

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19. With respect to claim 19, arguments analogous to those presented for claim 14 are applicable.

20. With respect to claim 20, arguments analogous to those presented for claim 1 are applicable.

21. With respect to claim 21, the Garr et al. reference discloses the image files of the print job relating to addresses (col. 4, lines 43-48 & col. 8, lines 23-28).

22. With respect to claim 22, the Garr et al. reference discloses a system for monitoring print consumables of a printing device, the system comprising:

A computer having a processor, an input/output (I/O) port connected to the printing device, and a memory (col. 4, lines 54-56);

A software application executable by the processor and configured to prepare a print job and to communicate with the printing device, through the I/O port, to render the print job, wherein the print job includes an image file and a copy number representing the number of copies of the image file that are to be printed (col. 4, lines 49-67).

23. With respect to the rest of the claim 21, arguments analogous to those presented for claims 1 and 8 are applicable.

Conclusion

24. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,459,861 to Sakurai et al. discloses an apparatus for informing the user the life of the cartridge.


U.S. Patent 6,052,547 to Cuzzo et al. discloses a method of calculating a number of pixels per page in a printing device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHAN S PARK whose telephone number is (703) 305-2448. The examiner can normally be reached on M-F 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached on (703) 305-4712. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.

Csp
August 28, 2003


EDWARD COLES
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2003